This listing of claims will replace all prior versions, and listings, of claims in the application.

LISTING OF CLAIMS:

1. (Currently Amended) A method of measuring the height of a liquid using a high-frequency line probe (1), wherein there is implemented, on an electric circuit (3), supplied with a high-frequency alternating current, a comparison between the impedance of a coaxial or non-coaxial line probe (1) and a reference resistor (17), using a resistive measuring bridge (7), the probe (1) being submerged in a tank of fluid the height of which is to be determined forming one measuring arm of the measuring bridge and said reference resistor (17) forming an opposite arm of the measuring bridge, the comparison generating a comparison signal resulting from the alternate measurement of the signal on each of the measuring bridge arms using a detector, and through processing the comparison signal in order to obtain the calculation of the height of the liquid according to its permittivity, the length of the probe (1) and the circuit (3) power supply frequency, the processing of the comparison signal being performed in two stages comprised of a logarithmic amplifier stage (9) followed by a terminal differential amplifier stage (11), wherein said processing of the comparison signal implements a double synchronous switching (13), between the input (13a) of the logarithmic amplifier stage (9), and between the output (13b) of the logarithmic amplifier stage and the differential amplifier stage (11), so as to utilize a single logarithmic amplifier stage (9) for the first processing stage of the circuit.

2. (Previously Presented) The measuring method as claimed in claim 1, wherein the probe (1) is formed by a straight tube, rod or metallic wire of any type which extends through the height of liquid in the tank.

3. (Currently Amended) The measuring method as claimed in claim 2, wherein the probe (1) has a vertical length of from about 0.1 to 10m.

4. (Previously Presented) The measuring method as claimed in any one of the preceding claims, wherein frequency of the high-frequency alternating current supply of the circuit (3) of the probe (1) is within the range from about 4 to 20 MHz.

5. (Currently Amended) The measuring method as claimed in claim 1, wherein the reference resistor (17) is selected to be approximately equal to that of an impedance modulus of the probe (1) at a mid-height of the liquid contained in the tank.

Claims 6 and 7 (Cancelled).

8. (Currently Amended) The measuring method as claimed in claim [[7]] 1, wherein alternating current measuring signals processed by the logarithmic amplifier (9) are received alternately via said synchronous switching on a capacitive circuit (15) with opposite branches (15a, 15b) at the input of the terminal differential amplifier stage (11), so as to be picked up and processed by the [[latter]] terminal differential amplifier stage.

9. (Currently Amended) The measuring method as claimed in claim [[7 or 8]] 1 or 2, wherein said double synchronous switching (13) is controlled by a square signal pulse generator (19).

10. (Currently Amended) A probe used for measuring the height of liquids, in particular hydrocarbons in tanks, wherein said probe comprises an assembly consisting of an open-ended high-frequency line (1) submerged in the liquid and extending over the height thereof which is to be measured, and a circuit (3) with measuring bridge (7) and logarithmic (9) and differential (11) amplifier stages for a resultingly processed line impedance signal, wherein said circuit (3) implements a double synchronous switching (13), between the input (13a) of the logarithmic amplifier stage (9), and between the output of the latter (13b) and the differential amplifier stage (11), so as to utilize a single logarithmic amplifier (9) for the first processing stage of the circuit.

11. (Previously Presented) The measuring method as claimed in claim 1, wherein the liquid employed is a low-permittivity liquid.

12. (Previously Presented) The measuring method as claimed in claim 1, wherein the liquid employed is a hydrocarbon in a liquid phase.